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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,805	10/30/2000	William Thornton	98006/17UTL	8722

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EXAMINER	
SOTOMAYOR, JOHN	
ART UNIT	**PAPER NUMBER**
3714	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/699,805	THORNTON, WILLIAM	
	Examiner	Art Unit	
	John L Sotomayor	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 8-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 8-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Upon preparation for appeal of claims 1-12 new reference(s) have been discovered that provide greater clarity on the record for action on the claims. Accordingly, the finality of the last Office Action is withdrawn. The Examiner regrets the extension in prosecution caused by the withdrawal of the previous action. Rejections based on the newly cited reference(s) follow.

Accordingly, claims 1,2 and 8-27 are pending.

Claim Objections

2. Claims 1 and 2 are objected to because of the following informalities: Claim status identifiers are incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1,2 and 8-27 are rejected under under 35 U.S.C. 103(a) as being unpatentable over Eggert et al (US 5,853,292) in view of Lampotang et al (5,769,641) and Tjolsen et al (US 6,007,342).

Regarding claim 1, Eggert et al discloses a simulation apparatus including a manikin and comprising a plurality of electronic signals corresponding to a heart beat (Col 4, lines 60-67), and an audio simulator for generating a heart beat signal (Col 6, lines 26-40). Eggert et al does not specifically disclose a tactile pulse signal to detect a pulse signal discernable by touch, the generation of a pulse signal or a correlated heart sound. However, Lampotang et al teaches a simulation system which generates a pulse signal and a synchronized heart sound (Abstract) and Tjolsen et al teaches a pulse device for creating simulated feelable pulse in a manikin (Col 3, lines 1-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a simulation apparatus including a manikin and comprising a plurality of electronic signals corresponding to a heart beat and an audio simulator for generating a heart beat signal as disclosed by Eggert et al with a simulation system which generates a pulse signal and a synchronized heart sound as taught by Lampotang et al and including a pulse device for creating a simulated feelable pulse in a manikin as taught by Tjolsen et al to produce a system that closely corresponds to a real patient and allows a student to train on a close simulation of a real patient.

Regarding claim 2, Eggert et al discloses a simulation apparatus including a manikin comprising a plurality of electronic signals corresponding to a heart beat (Col 4, lines 60-67) distributed in an appropriate fashion, left side or right side, required by the training regimen (Col

6, lines 40-52), and an audio simulator for generating a heart beat signal (Col 4, lines 26-40) that may be heard through a stethoscope. Eggert et al does not specifically disclose the generation of a feelable pulse signal or a correlated heart sound. However, Lampotang et al teaches a simulation system which generates a pulse signal and a synchronized heart sound (Abstract), and Tjolsen et al teaches a pulse device for creating simulated feelable pulse in a manikin (Col 3, lines 1-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a simulation apparatus including a manikin comprising a plurality of electronic signals corresponding to a heart beat distributed in an appropriate fashion, left side or right side, required by the training regimen, and an audio simulator for generating a heart beat signal that may be heard through a stethoscope as disclosed by Eggert et al with a simulation system which generates a pulse signal and a synchronized heart sound as taught by Lampotang et al and a pulse device for creating simulated feelable pulse in a manikin as taught by Tjolsen et al to produce a system that provides more flexibility for training staff.

Regarding claim 9, Eggert et al discloses that the audio simulator housed within a housing that simulates a manikin (Col 4, lines 37-44 and Fig. 2).

Regarding claims 11 and 17, Eggert et al discloses that the audio simulator housing is contained by a manikin that simulates an upper part of a human body including simulated chest and arm portions (Col 2, lines 27-54 and Figure 2).

Regarding claims 8,10,13, 16, 19 and 27, Eggert et al discloses a simulator designed to represent a patient, such as a manikin, with a plurality of sensors and electronic signals to represent a plurality of physical diagnostic signals such as any one of a plurality of body noises including heart and lung sounds (Col 4, lines 46-62 and Fig 2). Eggert et al does not specifically

disclose that a tactile pulse simulator comprises any one of a tactile switch, collapsible tube apparatus or piezoelectric transducer (claims 8 and 16) or that the tactile simulator comprises a resilient cover over a tactile switch (claims 10, 13, 19 and 27). However, Tjolsen et al teaches that a simulated pulse may be derived from a collapsible tube apparatus (Col 2, lines 22-35). Tjolsen also teaches that the tube apparatus is made of a soft rubber (Col 4, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the art at to provide a simulator designed to represent a patient, such as a manikin, with a plurality of sensors and electronic signals to represent a plurality of physical diagnostic signals such as any one of a plurality of body noises including heart and lung sounds as disclosed by Eggert et al with a tactile pulse simulator consisting of a collapsible tube apparatus with a resilient cover over a tactile switch as taught by Tjolsen et al for the purposes of producing a training simulator that has the appearance of a human system and provides a realistic pulse tactile signal.

Regarding claim 12, Eggert et al discloses a simulator apparatus wherein pulse simulation signals are detected in a simulated arm in a first housing and audio is detected from the chest, a second housing (Col 6, lines 27-52). Eggert et al does not specifically disclose that the tactile sensor for the pulse is located in the wrist of the simulator (claim 12). However, Eggert et al teaches that pulsation sensors are located at all major correspondence points with the human body the simulator is designed to represent (Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at to provide a simulator apparatus wherein pulse simulation signals are detected in a simulated arm in a first housing and audio is detected from the chest, a second housing as disclosed by Eggert et al and wherein the pulse simulator is located in a simulated wrist and the audio simulator located in the chest portion as taught by Eggert et al for

the purposed of producing a simulator that most closely matches the audio and pulsation locations on a human body.

Regarding claims 14 and 18, Eggert et al discloses a simulator apparatus wherein pulse simulation signals are detected in a simulated arm in a first housing and audio is detected from the chest (Col 6, lines 26-52).

Regarding claim 15, Eggert et al discloses a simulator apparatus wherein pulse simulation signals are detected in a simulated arm and audio is detected from the chest (Col 6, lines 26-52). Eggert et al does not specifically disclose that the tactile sensor for the pulse is located in the wrist of the simulator or that the tactile simulator comprises a resilient cover over a tactile switch. However, Eggert et al teaches that pulsation sensors are located at all major correspondence points with the human body the simulator is designed to represent (Fig. 2). Tjolsen et al teaches that a tube apparatus is made of a soft rubber or synthetic resin so as to reproduce feeling in a finger that is similar to the human body diagnosis (Col 4, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the art to provide a simulator apparatus wherein pulse simulation signals are detected in a simulated arm and audio is detected from the chest as disclosed by Eggert et al and wherein the pulse simulator is located in a simulated wrist and that the tactile simulator comprises a resilient cover over a tactile switch as taught by Tjolsen et al for the purposed of producing a simulator in which diagnosis points are located in a fashion to emulate the human body for better training of medical professionals.

Regarding claims 20 and 22, Eggert et al discloses a simulator apparatus such as a manikin for generating pulse and heart beat simulations comprising a simulated upper body portion with a chest and left and right arm portions, a playback device for generating electronic

signals corresponding to pulse and heartbeat signals, a tactile pulse simulator and a heart beat signal within the chest housing of the simulator with the heart beat detectable by a stethoscope and including a left and right pulse signal (Col 4 and Col 6).

Regarding claims 21 and 26, Eggert et al discloses a simulator designed to represent a patient, such as a manikin, with a plurality of sensors and electronic signals to represent a plurality of physical diagnostic signals such as any one of pulse, heart beat, or lung sounds (Col 4, lines 25-62). Eggert et al does not specifically disclose that the tactile pulse simulator comprises any one of a tactile switch, collapsible tube apparatus or piezoelectric transducer. However, Tjolsen et al teaches that a simulated pulse may be derived from a collapsible tube apparatus as a tactile pulse simulator built within a simulator comprising a manikin (Col 2, lines 46-67). Therefore, it would have been obvious to one of ordinary skill in the art to provide a simulator designed to represent a patient, such as a manikin, with a plurality of sensors and electronic signals to represent a plurality of physical diagnostic signals such as any one of pulse, heart beat, or lung sounds as disclosed by Eggert et al and comprising a tactile pulse simulator as taught by Tjolsen et al for the purposes of producing a training simulator that has the appearance of a human system and provides a realistic pulse tactile signal.

Regarding claim 23, Eggert et al discloses a simulator apparatus wherein pulse simulation signals are detected in a simulated arm (Col 6, lines 26-52). Eggert et al does not specifically disclose that the tactile sensor for the pulse is located in either wrist of the simulator. However, Eggert et al teaches that pulsation sensors are located at all major correspondence points with the human body the simulator is designed to represent (Fig. 2) including pulsation points in both left and right wrists. Therefore, it would have been obvious to one of ordinary skill in the art to

provide a simulator apparatus wherein pulse simulation signals are detected in a simulated arm as disclosed by Eggert et al and wherein the pulse simulator is located in both a right and left simulated wrist in the body of the simulator as taught by Eggert et al for the purposes of producing a simulator with the ability for multiple use by training professionals.

Regarding claim 24, Eggert et al discloses a simulator apparatus wherein pulse simulation signals are detected in a simulated arm and audio is detected from the chest (Col 6, lines 26-52). Eggert et al does not specifically disclose that the tactile sensor for the pulse is located in the wrist of the simulator or that the tactile simulator comprises a resilient cover over a tactile switch. However, Eggert et al teaches that pulsation sensors are located at all major correspondence points with the human body the simulator is designed to represent (Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art to provide a simulator apparatus wherein pulse simulation signals are detected in a simulated arm and audio is detected from the chest as disclosed by Eggert et al and wherein the pulse simulator is located in a simulated wrist and that the tactile simulator comprises a resilient cover over a tactile switch as taught by Eggert et al for the purposes of producing a simulator in which diagnosis points are located in a fashion to emulate the human body for better training of medical professionals.

Regarding claim 25, Eggert et al discloses a simulator apparatus for generating pulse and heart beat simulations comprising a simulated upper body portion with a chest and left and right arm portions, a playback device for generating electronic signals corresponding to pulse and heartbeat signals, a tactile pulse simulator and a heart beat signal within the chest housing of the simulator with the heart beat detectable by a stethoscope (Col 6, lines 26-52). Eggert et al does not specifically disclose a left and right pulse signal, or that the pulse signal is a pressure pulse

signal. However, Tjolsen et al teaches that a pressure pulse signal may be generated through flexible tubing (Col 2, lines 23-67). Therefore, it would have been obvious to one of ordinary skill in the art to provide a simulator apparatus for generating pulse and heart beat simulations comprising a simulated upper body portion with a chest and left and right arm portions, a playback device for generating electronic signals corresponding to pulse and heartbeat signals, a tactile pulse simulator and a heart beat signal within the chest housing of the simulator with the heart beat detectable by a stethoscope as disclosed by Eggert et al with a pressure pulse signal may be generated through flexible tubing as taught by Tjolsen et al for the purposes of producing a training simulator that closely resembles the subjects for which the simulator is designed providing a realistic training environment for medical professionals.

Response to Arguments

Applicant's arguments with respect to claims 1,2 and 8-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lutaenko et al (US 4,850,876) for a discussion of an training device with tactile elements to simulate vital internal organ processes for training in revivication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L Sotomayor whose telephone number is 571-272-4456. The examiner can normally be reached on 6:30-4:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Harrison can be reached on 571-272-4449. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jls
March 17, 2005

Chanda L. Harris
CHANDA L. HARRIS
PRIMARY EXAMINER